

## REMARKS

Applicants appreciate the examination provided in the Office Action mailed November 30, 2006 ("Office Action"), and the indication that Claims 14-18 and 32-38 recite patentable subject matter. Applicants respectfully request reconsideration and withdrawal of the rejections of Claims 1-13, 19-31 and 39-43 for at least the reasons presented below.

### **Independent Claims 1, 20 and 39 are patentable**

Independent Claims 1 and 39 stand rejected as allegedly anticipated by U.S. Patent Application Publication No. 2004/0263403 to Zafar et al. ("Zafar"). Office Action, p. 2. In particular, regarding Claims 1 and 39, the Office Action alleges that FIGs. 3-4D of Zafar disclose a "mobile satellite radio antenna comprising a ground plane (108); a conductor loop (100a) overlying the ground plane (108); and wherein the monopole (110) and the conductor loop (100a) are configured to be coupled to a common feed-point (112)." Office Action, p. 2.

Respectfully, this is a misinterpretation of Zafar. As stated in Zafar:

Four possible embodiments of the multi-band terrestrial/satellite antennas 12a-18b that may be applied in the antenna system 10 are illustrated in FIGS. 4A-4D. The antennas 12a-18b implemented in the antenna system 10 may be a patch antenna 100a (FIG. 4A), a loop antenna 100b (FIG. 4B), a quadrifilar antenna 100c (FIG. 4C), or a coupled-loop antenna 100d (FIG. 4D).

Thus, the Office Action appears to mistakenly refer to various elements of *different* antennas as being part of the *same* antenna, which they are not.

Moreover, the Office Action misidentifies several of the cited items from Zafar. For example, "100a" is not a "conductor loop." Rather, as noted above, it is a "patch antenna." The reference to "monopole (110)" is also contradictory and erroneous. In particular, "110" in Fig. 4A refers to a rectangular planar conductive area disposed on a planar substrate 106. In FIG. 4B, however, "110" is a planar ring on a planar substrate 106. In FIG. 4C, "110" refers to helical conductive elements on a cylinder 106 while, in FIG. 4D, "110" refers to an arrangement of conductive lines on the surface of a cylinder 106. See Zafar, paragraphs [0024] - [0027]. None of these structures appears to be, or is described in Zafar as, a "monopole." Moreover, none of the cited figures illustrates wherein "the monopole and the conductor loop are configured to be coupled to a common feedpoint," as the alleged feedpoint

112 of FIG. 4A appears to be only connected to the rectangular planar region 110 and a low noise amplifier 104.

Accordingly, Zafar does not provide the teachings alleged in the Office Action, and does not teach or suggest several of the recitations of independent Claims 1 and 39. For at least these reasons, Applicants submit that the rejections of independent Claims 1 and 39 are erroneous, and that these claims are patentable over Zafar.

Independent Claim 20 stands rejected as being allegedly unpatentable over a combination of Zafar and U.S. Patent No. 6,985,108 to Mikkola et al. ("Mikkola"). Office Action, p. 4. As this rejection is based on a similarly erroneous interpretation of Zafar, Applicants submit that the rejection of Claim 20 is erroneous for at least similar reasons to those presented above with reference to Claims 1 and 39.

#### **The dependent claims are patentable**

Applicants submit that dependent Claims 2-19, 21-38 and 40-43 are patentable at least by virtue of the patentability of the various ones of independent Claims 1, 20 and 39 from which they depend. Applicants further submit that several of the dependent claims are separately patentable, including Claims 14-18 and 32-38 indicated as separately patentable in the Office Action.

For example, with reference to Claims 2, 3 and 40, the Office Action asserts "the conductor loop (100a-110e) has a reflective feature therein and the reflective feature comprises a corner." Office Action, p. 3. As discussed above, 100a is not a "conductor loop"; it is a patch antenna. 100b-100e also refer to antennas, not conductor loops. Moreover, the Office Action cites nothing in Zafar that teaches or suggests the alleged reflective features, e.g., what specific features of the antennas 100a-e are "reflective." For at least these reasons, Applicants submit that the rejections of Claims 2, 3 and 40 are erroneous and should be withdrawn.

The rejections of Claims 4, 10, 11 and 41 also mistakenly refer to antennas 100a-100d as "conductor loops." Office Action, p. 3. As discussed above, this is erroneous, and the rejections are, therefore, erroneous.

In the rejection of Claim 7, the Office Action alleges "Zafa (sic) discloses the monopole (110) is coupled to the conductor loop at a corner thereof. See figure 4C." Office Action, p. 3. This is erroneous, as there appears to be no "conductor loop" or "corner" therein shown in FIG. 4C. Accordingly, this rejection is erroneous and should be withdrawn.

In the rejection of Claim 9, the Office Action states "Zafa (sic) discloses wherein the conductor loop (100a-100d) is positioned adjacent an edge of the ground plane (108), and wherein the monopole (110) extends off the edge of the ground plane. See Figures 4A-4D." Office Action, p. 3. Again, 100a-100d are antennas, not conductor loops, and 110 is not a monopole. Moreover, there are a variety of edges shown in FIGs. 4A-D, but the Office Action fails to indicate which, if any, of these allegedly corresponds to the recited "edge." Accordingly, Applicants submit that this rejection is erroneous and should be withdrawn.

In rejecting Claim 12, the Office Action alleges "Zafa (sic) discloses a helical element (110) arranged coaxial with the monopole and configured to be coupled to the common feed-point (3). See figures 4A-4D." Office Action, p. 3. This contradicts the Office Action's previous assertion that item 110 corresponds to the recited "monopole." Moreover, there is no "feed-point (3)" in these figures. Accordingly, this rejection is erroneous and should be withdrawn.

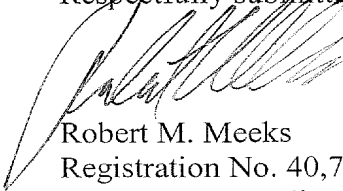
The rejections of several others of the dependent claims depend on similarly flawed interpretations of Zafar. In the interest of brevity, Applicants defer further discussion of these rejections and evaluations of the Office Action's interpretations of other references, including the Mikkola reference.

## **Conclusion**

For at least the foregoing reasons, Applicants submit that all of the claims are in condition for allowance. Applicants, therefore, request allowance of the claims and passing of the application to issue in due course. Applicants encourage the examiner to contact the undersigned by telephone to resolve any remaining issues.

In re: Hwang et al.  
Serial No.: 10/691,150  
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Respectfully submitted,



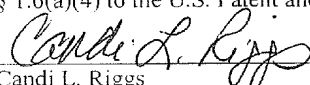
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